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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,502	12/27/2001	Souheil Hakim	14XZ00124	1242
7590	01/24/2005		EXAMINER	
Jay L. Chaskin General Electric Company 3135 Easton Turnpike -W3C Fairfield, CT 06828			PERUNGAVOOR, SATHYANARAYA V	
			ART UNIT	PAPER NUMBER
			2625	

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/034,502

Applicant(s)

HAKIM, SOUHEIL

Examiner

Sath Perungavoor

Art Unit

2625

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/27/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/27/2001.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 0100339, filed on 01/11/2001.

### ***Specification***

35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are:

- Formula for the method of calculating the autocorrelation is absent in the disclosure, but it is referred to in page 5.

### ***Claim Objections***

Claim 5 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

- Claimed subject matter is replica of the claim upon which claim 5 is dependent.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 1, specification is devoid of teachings to carry out the following:

1. "determining N autocorrelations of the vector of luminous intensity values associated with the row of elementary pixels are made for each row, with respectively the vector and the N-1 vectors successively shifted by 1 elementary pixel, so as to obtain for each row a vector of N autocorrelation values"
2. "carrying out a Fourier transform treatment on each autocorrelation vector, in order to obtain an energy frequency spectrum"

Similarly, claims 2-5, 8 and 9 are rejected as being dependent on claim 1.

Regarding claim 2, specification is devoid of teachings to carry out the following:

- The method of determining the associated pixels.

Regarding claim 6, specification is devoid of teachings to carry out the following:

1. "means capable of carrying out for each row N autocorrelations of the vector of luminous intensity values associated with the row of elementary pixels, with respectively the vector and the N-1 vectors successively shifted by 1 elementary pixel, so as to obtain for each row a vector of N autocorrelation values"
2. "means for treatment capable of carrying out a Fourier transform treatment on each autocorrelation vector, so as to obtain an energy frequency spectrum"

Similarly, claim 7 is rejected as being dependent on claim 6.

Regarding claim 7, specification is devoid of teachings to carry out the following:

- The method of determining the associated pixels.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 5, 6, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siczek et al. (US 5,526,394) in view of Osaki et al. (US 5,163,099) and further in view of Press et al. (NPL document, see PTO-892).

Regarding claim 1, Siczek et al. disclose the detection of a compression paddle and method of acquiring a digital image. Siczek et al. also disclose the subdividing of the acquired digital image into rows of N pixels with assigned luminous intensity values (50 on Fig. 2; Col. 7 Lines 29-35).

However, Siczek et al. does not expressly disclose the determining of N autocorrelations of the vector of luminous intensity values, performing the Fourier transform on the autocorrelation vector to obtain the energy frequency spectrum and comparing the energy value at the graduated marks with a threshold value.

Osaki et al. does disclose the detection of markings using the energy frequency spectrum<sup>1</sup> and comparing the energy value with a predetermined threshold value (Col. 2 Lines 54-65).

Press et al. disclose the Wiener-Khinchin theorem, which determines the power spectrum by taking the Fourier transform of the autocorrelation (Equation 12.0.12; Page 566).

It would have been obvious to one with ordinary skill in the art at the time of invention to modify the teachings of Siczek et al. with Osaki et al. and Press et al. to

further meet the claim limitations. Since, Osaki et al. disclose the detection of markings through power spectrum calculation and Press et al. disclose an alternative method to calculate the power spectrum. One can easily combine the teachings and perform the functions of Osaki et al. via a new method. Since, Osaki et al.'s invention is not limited to one particular application, it would be applicable to detecting a graduated compression paddle and would be combinable with Siczek et al.'s invention.

Regarding claim 3, Siczek et al. disclose the method according to claim 1 wherein acquisition of the image is carried out in an automatic mode, in which the adjustment of the exposure parameters is determined from a table of automatic optimization of parameters (AOP) (Col. 9 Lines 13-21).

Regarding claim 5, all limitations are set forth and rejected as per discussion for claim 3.

Regarding claim 6, all limitations are set forth and rejected as per discussion for claim 1.

Regarding claim 8, Osaki et al. disclose a device for automatic detection of a graduated compression capable (Fig. 1). All remaining limitations are set forth and rejected as per discussion for claim 1.

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<sup>1</sup> The power spectrum is the distribution of the energy of a function in the frequency domain.

Regarding claim 9, Osaki et al. disclose a computer program product, recorded on a support usable in a processor, containing program code means employing the method according to claim 1 (Col. 4 Lines 61-65). All remaining limitations are set forth and rejected as per discussion for claim 1.

Claims 2, 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siczek et al. in view of Osaki et al. and further in view of Press et al. as applied to claim 1 above, and further in view of Baxes (NPL document, see PTO-892).

Regarding claim 2, Siczek et al., Osaki et al. and Press et al. disclose the limitations as set forth in the discussion for claim 1.

However, Siczek et al., Osaki et al. and Press et al. do not disclose the luminous intensity values of each pixel being equal to the mean of the luminous intensity values of pixels associated with the base pixel of the cell.

Baxes does disclose the luminous intensity values of each pixel being equal to the mean of the luminous intensity values of pixels associated with the base pixel of the cell (Page 89; Box filter).

It would have been obvious to one with ordinary skill in the art at the time of invention to modify the teachings of Siczek et al., Osaki et al. and Press et al. with Baxes to further meet the claim limitations. Box filters are commonly used in remove random noise from an image and could be applied to any digital image.



Regarding claim 4, all limitations are set forth and rejected as per discussion for claim 3.

Regarding claim 7, all limitations are set forth and rejected as per discussion for claims 1 and 2.

### ***Contact Information***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sath Perungavoor whose telephone number is (703) 306-4116. The examiner can normally be reached on Monday to Friday from 8:30am to 5:00pm.

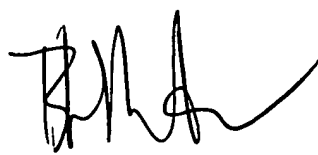
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta whose telephone number is (703) 308-5246, can be reached on Monday to Friday from 9:00am to 5:00pm. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Sath Perungavoor  
Art Unit 2625  
January 19, 2005

  
**BHAVESH M. MEHTA**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**